

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WALTER GOERENZ, ULLRICH BILLERT,
DIETER LINNHOFER, WALTER NIEVELSTEIN,
ROLF VAN DER MEULEN, and VOLKMAR OFFERMANN

Appeal No. 2005-1577
Application No. 09/851,159

HEARD: September 14, 2005

Before KIMLIN, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 1-3, 5-7 and 9-22. Claim 4, which is the only other claim pending in this application, stands withdrawn from further consideration by the examiner as drawn to a non-elected invention.

BACKGROUND

Appellants' invention relates to a laminated glazing unit and method of preparing same. An understanding of the invention can be derived from a reading of exemplary claims 1 and 21, which are reproduced below.

1. A process for manufacturing a laminated glazing unit having at least two panes forming a composite with an inside and an outside, a first coated pane being provided on a surface facing the inside of the composite with a corrosion protected transparent surface coating and at least one adhesive layer for coupling panes together, the process comprising:

removing the transparent surface coating proximate at least one edge of the coated pane to create an exposed region between about 0.1 mm and about 5 mm from a peripheral edge of the pane along a main surface of the pane;

applying an opaque protective layer proximate the peripheral edge of the coated pane after removal of transparent surface coating therefrom, the protective layer being substantially impermeable to diffusion of water vapor and covering at least a portion of the exposed region of the coated panes and extending across a portion of the transparent surface coating beyond an edge thereof proximate the peripheral edge of the pane;

coupling the panes together with an adhesive layer disposed therebetween to form the laminated glazing unit.

22. A process for manufacturing a laminated glazing unit from a pair of glass panes, the process comprising:

grinding a peripheral edge on each of the glass panes;

disposing a transparent surface coating, a ceramic protective layer, an opaque protective layer and an adhesive layer between the glass panes layer, with (1) the transparent surface coating disposed between the opaque protective layer and one of the glass panes and (2) the opaque protective layer disposed between the adhesive layer and the transparent surface coating;

covering at least a portion of a main surface of one of the glass panes with the protective layer, with the protective layer also extending across a portion of the transparent surface coating beyond an edge thereof proximate the peripheral edge of the glass pane.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Koontz	4,994,650	Feb. 19, 1991
Carter et al. (Carter)	5,030,503	Jul. 09, 1991
Goerenz et al. (Goerenz)	5,099,105	Mar. 24, 1992
Tweadey et al. (Tweadey)	5,131,967	Jul. 21, 1992
Marquardt et al. (Marquardt)	5,908,675	Jun. 01, 1999
Winter et al. (Winter)	5,999,136	Dec. 07, 1999
Shukuri et al. (Shukuri)	6,555,202	Apr. 29, 2003
		(filed May 13, 1999)
Levin ¹	DE 23444616	Mar. 06, 1975
Glaser ²	DE 19632240	Nov. 13, 1997

Claims 1,5, 7-9, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter in view of Koontz and Tweadey. Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter in view of Koontz, Tweadey, Levin and Glaser. Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter in view of Koontz, Tweadey and Carter. Claims 10 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter in view of Koontz, Tweadey and Goerenz. Claims 11-17 stand rejected under

¹ The examiner and appellants refer to this reference as Eisenfuhr et al. However our references to Levin in this decision are to the English language translation of DE 234 44 616 prepared by FLS, Inc. A copy of the translation is attached to this decision.

² Our references to Glaser in this decision are to the English language translation of DE 196 32 240 prepared by FLS, Inc. A copy of the translation is attached to this decision.

35 U.S.C. § 103(a) as being unpatentable over Winter in view of Tweadey. Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Winter in view of Shukuri and Marquardt.

We refer to appellants' briefs and to the examiner's answer for an exposition of the respective viewpoints expressed by appellants and the examiner concerning the rejections.

OPINION

Upon careful review of the entire record including the respective positions advanced by appellants and the examiner with respect to the rejections before us, we find ourselves in agreement with appellants' viewpoint since the examiner has failed to carry the burden of establishing that the herein claimed subject matter would have been obvious within the meaning of 35 U.S.C. § 103 on this record. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). Accordingly, we will not sustain the examiner's rejections.

Winter, which is common to all of the examiner's stated rejections, is drawn to the use of electrically conductive ceramic paints in antenna elements or connectors of antenna

systems that are associated with vehicle window glazes. In the illustrated embodiment depicted in drawing Figure 4 of Winters, two glass plies (216 and 232) are employed with a transparent conductive coating (212) there between that is positioned in close proximity to surface (214) of ply (216) in a desired pattern for use as an antenna coating and occupying a generally central region of the space between the panes. A thermoplastic interlayer (234) is employed to bond the glass plies with each other and seal the antenna coating element (212) between the plies. In an undepicted option, connector (224, shown in drawing Figure 4 in a capacitive type antenna arrangement) is described as being optionally positioned along surface (214) of ply (216) to provide a direct electrical connection with coating (212). See, e.g., drawing Figure 4 and column 4, line 25 through column 5, line 26 of Winter.

Turning to the examiner's § 103(a) rejection of method claims 1, 5, 7-9, 18 and 19, the examiner takes the position that "the skilled artisan reading the reference [Winter] as a whole would have appreciated that when the two pane windshield has a direct connection, as an alternative to the capacitive connection shown in Figure 4, coating 212 and connector 224 would be

overlapping, just like coating 112 and connector 124 depicted in the direct connection of Figure 3 . . .” (answer, page 6).

Moreover, the examiner acknowledges that Winter does not disclose appellants’ claimed step of “removing the transparent surface coating proximate at least one edge of the coated pane to create an exposed region between about 0.1 mm and about 5 mm from a peripheral edge of the pane along a main surface of the pane.” See independent claim 1 and the removing step as recited in independent claim 18. In addition, the examiner acknowledges that Winter does not disclose that the connector (224) in the unillustrated optional direct connection embodiment with two glass plies is an opaque protective layer that is applied after a removal step as required in appellants’ claim 1. Nor does Winter teach that connector (224) is substantially impermeable to water vapor as is appellants’ claimed protective layer as applied in the method of appellants’ claim 1.

The examiner further maintains (answer, pages 7 and 8) that:

It is noted the present specification teaches the protective layer being an electro conductive ceramic paint (p. 3, lines 5-7 and 24-25). Therefore, the skilled artisan would have readily appreciated that the electro conductive ceramic paint layer of Winter would also serve as protective layer that is impermeable to the diffusion of water vapor.

As for the protective layer of Winter being opaque, the reference teaches the protective layer

being capable of impairing the visibility of the driver if it covers too much area (column 4, lines 57-62). Therefore, the skilled artisan would have readily appreciated that the protective layer is opaque.

It is known in the art to form a laminated glazing for a windshield having one pane with a transparent coating thereon and which is spaced from the peripheral edges of the pane by coating the entire surface of the pane and subsequently removing the coating from selected areas of the pane, as taught by Koontz (column 4, lines 18-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the transparent coating of Winter to the entire surface of the pane and subsequently remove the coating from selected areas.

Selection of a particular width for the uncoated regions of the pane would have been within purview of the skilled artisan at the time the invention was made. However, it is known in the windshield art to apply a transparent coating to the entire surface of a glass pane and subsequently remove portions of the coating in an area extending from the peripheral edge of the pane up to about 0.025-3.18 mm inside the edge of the pane, as taught by Tweadey (column 4, line 61 - column 5, line 5; column 5, lines 11-12).

The difficulty we have with the examiner's obviousness position stems from the fact that Winter is concerned with an antenna system for a windshield and method of making same, not a method for forming a laminated glazing unit that includes a corrosion protected transparent surface coating and a protective coating layer including the specific method steps claimed. In this regard, both Koontz and Tweadey are not instructive about forming a windshield antenna system and method of preparing same as disclosed by Winter but rather are concerned with other types

of glazes and preparation methods therefore and, as such, offer no particular suggestion as to how to modify the antenna structure of Winter.

For example, Winter places no special requirements on the relative location of the outer boundaries of the electro-conductive coating (212) that forms an antenna and is sealed between the two glass plies using a thermoplastic interlayer. See, e.g, column 4, lines 25-56 of Winter. While Winter does teach that the antenna connector (224) can be positioned along a surface (214) of the glass ply (216) in order to establish a direct connection with the antenna coating (212), there is no specific teaching in Winter concerning how such a direct connection arrangement is to be formed for a two ply glazing, although Winter does indicate that the connector (224) is relatively small when employing a direct connection as compared to the size thereof when employing a capacitive coupling arrangement.

Koontz and Tweadey, which references are not drawn to windows having antenna systems, are not particularly relevant in suggesting to one of ordinary skill in the art how the antenna system and connections of the glazing of Winter should be made. For example, Koontz is concerned with forming a heated windshield

wherein an electrically conductive coating (18) is applied so as to leave marginal areas for furnishing electrical connections and teaches, as one option, that the coating can be applied to a glass ply and subsequently deleted from those marginal areas. See, e.g., column 4, lines 16-53 of Koontz. Similarly, Tweadey teaches applying a film stack useful as a heating element or for solar load reduction on a glass ply and thereafter using a laser to remove a portion of the stack forming a narrow band of stack free glass ply around the periphery of the stack and using a PVB laminating layer to fill that band. See, e.g., column 2, line 20 through column 6, line 65 of Tweadey.

As such, we do not agree with the examiner's obviousness position as outlined at pages 7 and 8 of the brief suggesting that the disparate Koontz and Tweadey references would have suggested to one of ordinary skill in the art a modification in a method of making the window glazing and antenna arrangement of Winters in a fashion such that a method corresponding to appellants' method would have resulted.

In particular, we note that the antenna connector (224) of Winters does not correspond to the claimed protective layer that is applied according to appellants' claims, as the examiner suggests. In this regard, we note that appellants define the

protective layer as a layer that is substantially impermeable to water vapor diffusion and as a layer that serves to protect or prevent the corrosion of a transparent surface coating by covering the exposed portion (boundary edge) thereof. See, e.g., page 2, lines 31-33 and page 3, line 34 through page 4, line 2 and Page 4, lines 23-25 of appellants' specification.³ Here, the examiner has not reasonably established that the antenna connector (224) of Winter would serve as a protective layer, for the underlying layer (212) of the antenna-containing glazing assemblage disclosed therein, as claimed herein.

The speculative position asserted by the examiner is merely an unsupported opinion of the examiner and such is not enough to establish the obviousness of the claimed subject matter within the meaning of 35 U.S.C. § 103. Rather, as our reviewing court has made clear, the examiner must identify a particularized suggestion, reason or motivation to combine references or make the proposed modification in a manner so as to arrive at the claimed invention. See In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). Any such showing must be

³ We construe the claims by giving the terms employed therein their broadest reasonable meaning as they would be understood by one of ordinary skill in the art when read in light of the specification.

clear and particular. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). In the present case, sufficient evidence to establish such a suggestion is not made manifest in the examiner's stated rejection based on the teachings of the applied references. We conclude that the examiner has failed to establish a prima facie case of obviousness with respect to the subject matter of appealed claims 1, 5, 7-9, 18 and 19.

Since the examiner has not established how Glaser as additionally applied to dependent claims 2 and 3 makes up for the above-noted deficiencies, we shall likewise reverse the examiner's § 103(a) rejection of claims 2 and 3.

Nor has the examiner made clear how Carter, as additionally applied to dependent claim 6, and which is directed to architectural glass panels with a patterned appearance, would have been suggestive of a modification of the antenna arrangement of Winter so as to lead one of ordinary skill in the art to appellants' claimed subject matter. The examiner simply has not established how the disparate teachings of Carter would have suggested modifying an antenna connector of Winter in any fashion, much less in a manner such that a process corresponding

to claim 6 would result. Thus, we shall reverse the examiner's separate rejection of claim 6.

Regarding claims 10 and 20, the examiner additionally applies Goerenz in a separate § 103(a) rejection. However, the examiner has not established how Goerenz makes up for the above-noted deficiencies. Accordingly, we shall likewise reverse the examiner's § 103(a) rejection of claims 10 and 20.

Concerning product claims 11-17, the examiner relies on a combination of Winter and Tweadey as suggesting the claimed subject matter for reasons as discussed in the separate rejection of method claim 1. See page 9 of the answer. As explained above, however, the examiner has not fairly established how the disparate teachings of Tweadey would have suggested that one of ordinary skill in the art should modify the antenna containing window structure of Winter in a manner so as to result in the claimed glazing structure, including a transparent surface coating arranged as recited in claim 11 with a protective layer. Consequently, we shall reverse the examiner's § 103(a) rejection of claims 11-17, on this record.

Concerning claims 21 and 22, the examiner relies on a combination of the teachings of Winter, Shukuri and Marquardt.

The examiner relies on Winter for reasons discussed in the answer, as outlined above for the separate rejection of claim 1, and relies on Shukuri and Marquardt for teaching a grinding step in forming glass laminates. However, the examiner does not fairly explain why one of ordinary skill in the art would combine Shukuri's method of forming a stepped portion of a windowpane by grinding that is used in reducing discontinuities between a vehicle body and a window pane and/or why one of ordinary skill in the art would employ the pane grinding step of Marquardt that is used in conjunction with a specified emulsion, such as a transparent or translucent ethylene polymer that breaks upon contact with perimeter edge surfaces for penetrating into the micro structure of a perimeter edge, with the antenna connector of Winter and the method of applying such a connector. The examiner's proposed benefit of reducing wind noise and reducing water penetration as a rationale (answer, pages 10 and 11) does not address how one of ordinary skill in the art would have been led to use that proposed grinding step in conjunction with the antenna connector of Winter such that the antenna connector application could be used therewith in a fashion such that the antenna connector would function as an opaque protective layer as claimed yet continue to function as the requisite antenna

connector required by Winter. In this regard, the examiner has not established that one of ordinary skill in the art would view the antenna connector of Winter as requiring any correction or modification.

While the glazing systems of Shukuri and Marquardt use grinding for disparate reasons to aid in the formation of a vehicle window, that fact, by itself, does not serve to establish that one of ordinary skill in the art would have been led to employ such grinding in forming Winter's antenna device in a fashion so as to arrive at the here claimed subject matter based on the combined teachings of the references. The mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification obvious unless the desirability of such modification is suggested by the prior art.

Rejections based on § 103(a) must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellants' disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. See, e.g., Grain

Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

From our perspective, the examiner's rejections appear to be premised on impermissible hindsight reasoning. On the record of this appeal, it is our view that the examiner has not carried the burden of establishing a prima facie case of obviousness with respect to the subject matter defined by the appealed claims.

Other Issues

Prior to final disposition of the application, the examiner should determine whether or not Tweadley in combination with Marquardt would have suggested a laminated glazing unit to one of ordinary skill in the art, such as required by any of the product claims, such as claims 11-17 and 21. In this regard, we note that Marquardt suggests using an edge seal material in addition to a bonding layer in a glazing unit to seal the edges, Tweadley is concerned with edge sealing, and at least claim 11 does not require a ceramic protective layer.


CONCLUSION

The decision of the examiner to reject the appealed claims under 35 U.S.C. § 103(a) as being unpatentable over Winter in combination with the other applied prior art in the various combinations as set forth in the separate rejections presented in the answer is reversed.

REVERSED


EDWARD C. KIMLIN)
Administrative Patent Judge)


PETER F. KRATZ)
Administrative Patent Judge)


JEFFREY T. SMITH)
Administrative Patent Judge)

) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES

PFK/sld

Appeal No. 2005-1577
Application No. 09/581,159

Page 17

OBLON, SPIVAK, MCCLELLAND,
MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314